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JOINT SPRING SYMPOSIUM 2019

Danish Society for Parasitology and Danish Society for Tropical Medicine &
International Health

Title: "*Microbiota in host-parasite interaction*"

Time: Friday 5 April, 2019,

Venue: Festauditoriet (the Main Lecture Hall), building1-01, Bülowsvej 17, 1870 Frederiksberg C

***Toxoplasma gondii* seroprevalence in feral and farmed Danish mink**

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In Denmark, American mink (*Neovison vison*) have been bred for their fur since the mid-1920s, and Denmark is currently one of the largest producers of mink skins with 17 million skins annually. Farmed mink is originally native to North America. However, feral populations are now common in Europe and South America. In Denmark, feral mink is regarded as an invasive species originating from farm escapes. The zoonotic parasite *Toxoplasma gondii* has a wide host range, including mink. A Danish study from 1994 observed 3% sero-positive farmed mink by latex agglutination test. However, the literature on *T. gondii* in mink is generally scarce, and to our knowledge, no studies on *T. gondii* in feral Danish mink have been carried out. *Toxoplasma gondii* infections in mink might be of public health importance, when dead mink are handled. This study examined the antibody titer against *T. gondii* in feral- and farmed mink. In total, 112 farmed mink submitted to DTU-VET for diagnostic examination, and 228 feral mink sampled by hunters from Jutland, Funen, Zealand and Bornholm were included in the study. At necropsy, the heart was removed and stored at -20°C until analysis. Meat juice was extracted from the hearts when thawed and analysed for anti-*T. gondii* antibodies using a commercial indirect ELISA. None of the farmed mink were sero-positive, while 50.5% of the feral mink were sero-positive. Of the positive feral mink, 13.4% (15/112) had fur colors other than brown, indicating a recent escape from farms. Significantly ($p=0.0002$) more feral male (63.5%) than female (36.2%) were sero-positive. In view of the results, precautions should be taken when handling feral mink. In contrast, handling farmed mink, pose a neglectable risk of acquiring *T. gondii* infections.